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RM-9320



16-120548

**DICKSTEIN, SHAPIRO, MORIN & OSHINSKY LLP**  
2101 L Street NW  
Washington DC 20037-1526

**Nations Bank**  
16-120548

**Check No.**  
153230

**Date**  
March 9, 1998

**Amount**  
\$ 690.00

**PAY** \*\*\*Six Hundred Ninety and 00/100 Dollars\*\*\*

**TO THE ORDER OF**  
*Federal Communications Commission*

*[Signature]*  
2 Signatures Required if \$3000 or Above

Authorized Signature Required

US PATENT NO. 5,800,000

⑈ 153230 ⑈

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ORIGINAL

FOR  
FCC  
USE  
ONLY

FCC FORM 301

MAY

1998

**FCC 301**  
**APPLICATION FOR CONSTRUCTION**  
**PERMIT**  
**FOR COMMERCIAL BROADCAST STATION**

FOR COMMISSION USE ONLY

FILE NO.

180309 IE

Section I - GENERAL INFORMATION

1. APPLICANT NAME (Last, First, Middle Initial) DOGWOOD COMMUNICATIONS, INC.			
MAILING ADDRESS (Line 1) (Maximum 35 characters) c/o Neal J. Friedman, Esq.			
MAILING ADDRESS (Line 2) (Maximum 35 characters) 2101 L Street, N.W.			
CITY Washington		STATE OR COUNTRY (if foreign address) D.C.	ZIP CODE 20037-1526
TELEPHONE NUMBER (include area code) 202-833-7025		CALL LETTERS WAMJ (FM)	OTHER FCC IDENTIFIER (IF APPLICABLE)
2. A. Is a fee submitted with this application? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
B. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1113) and go to Question 3 <input type="checkbox"/> Governmental Entity <input type="checkbox"/> Noncommercial educational licensee <input type="checkbox"/> Other (Please explain):			
C. If Yes, provide the following information:			
Enter in Column (A) the correct Fee Type Code for the service you are applying for. Fee Type Codes may be found in the "Mass Media Services Fee Filing Guide." Column (B) lists the Fee Multiple applicable for this application. Enter in Column (C) the result obtained from multiplying the value of the Fee Type Code in Column (A) by the number listed in Column (B).			
(A)	(B)	(C)	
FEE TYPE CODE	FEE MULTIPLE (if required)	FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY
M P R	0 0 0 1	\$ 690	690.00
To be used only when you are requesting concurrent actions which result in a requirement to list more than one Fee Type Code.			
(2)	(B)	(C)	
		\$	FOR FCC USE ONLY
ADD ALL AMOUNTS SHOWN IN COLUMN C, LINES (1) THROUGH (2), AND ENTER THE TOTAL HERE. THIS AMOUNT SHOULD EQUAL YOUR ENCLOSED REMITTANCE		TOTAL AMOUNT REMITTED WITH THIS APPLICATION	FOR FCC USE ONLY
		\$ 690	690.00

107.5MHZ

BPH - 980309 IE

WAMJ

ROSWELL

GA

DOGWOOD COMMUNICATIONS, INC

FCC 301  
April 1996

**Section I - GENERAL INFORMATION (Page 2)**

3. This application is for: (check one box)

☐ AM

☒ FM

☐ TV

(b) Channel No. or Frequency  
298C3

(b) Principal Community	City	State
	Roswell	Georgia

(c) Check one of the following boxes:

☐ Application for NEW station

☐ MAJOR change in licensed facilities; call sign: \_\_\_\_\_

☒ MINOR change in licensed facilities; call sign: \_\_\_\_\_ WAMJ (FM)

☐ MAJOR modification of construction permit; call sign: \_\_\_\_\_

File No. of construction permit; call sign: \_\_\_\_\_

☐ MINOR modification of construction permit; call sign: \_\_\_\_\_

File No. of construction permit; call sign: \_\_\_\_\_

☐ AMENDMENT to pending application: Application File Number: \_\_\_\_\_

NOTE: It is not necessary to use this form to amend a previously filed application. Should you do so, however, please submit only Section I and those other portions of the form that contain the amended information.

4. Is this application mutually exclusive with a renewal application?

☐ Yes ☒ No

If Yes, state:

Call letters	Community of License	
	City	State

JOHN J. MULLANEY  
JOHN H. MULLANEY, P.E. (1994)

ALAN E. GEARING, P.E.  
THOMAS J. JOHNSON

301 921-0115 Voice  
301 590-9757 Fax  
mullengr@aol.com E-mail

**MULLANEY ENGINEERING, INC.**

9049 SHADY GROVE COURT  
GAITHERSBURG, MD 20877

**ENGINEERING EXHIBIT EE-3:**

**RADIO STATION WAMJ  
DOGWOOD COMMUNICATIONS, INC.  
ROSWELL, GEORGIA  
Ch. 298C3 9.2 KW-DA 163 M HAAT**

**MARCH 5, 1998**

**ENGINEERING STATEMENT IN SUPPORT OF  
AN APPLICATION FOR A  
"ONE-STEP" UPGRADE**

**ORIGINAL  
SIGNATURE**

**MULLANEY ENGINEERING, INC.**

**ENGINEERING EXHIBIT EE-3:**

**RADIO STATION WAMJ  
DOGWOOD COMMUNICATIONS, INC.  
ROSWELL, GEORGIA  
Ch. 298C3 9.2 KW-DA 163 M HAAT**

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## SECTION V-B - FM BROADCAST ENGINEERING DATA

## FOR COMMISSION USE ONLY

File No. \_\_\_\_\_

SSB Referral Date \_\_\_\_\_

Referred By \_\_\_\_\_

Name of Applicant

**Dogwood Communications, Inc.**

Call Letters (if issued)

**WAMJ**Is this application being filed in response to a window? ☐ Yes ☒ No

If Yes, specify closing date: \_\_\_\_\_

Purpose of Application: (check appropriate boxes)

☐ Construct a new (main) facility☐ Construct a new auxiliary facility☐ Modify existing construction permit for main facility☐ Modify existing construction permit for auxiliary facility☒ Modify licensed main facility☐ Modify licensed auxiliary facility

If purpose is to modify, indicate below the nature of change(s) and specify the file number(s) of the authorizations affected.

☒ Antenna supporting structure height☒ Effective radiated power☒ Antenna height above average terrain☐ Frequency☒ Antenna location☒ Class☐ Main Studio location☒ One-Step processing☒ Directional Antenna☒ Other (summarize) **MX with RM**File Number(s) Class A license is pending

## 1. Allocation:

Channel No.	Principal community to be served:		
	County	City or Town	State
298	Fulton	Roswell	GA

Class (check only one box below)

☐ A ☐ B1 ☐ B ☒ C  
☐ C2 ☐ C1 ☐ C

## 2. Exact location of antenna.

- (a) Specify address, city, county and state. If no address, specify distance and bearing relative to the nearest town or landmark.  
**Tower Place, 3340 Peachtree Rd., Atlanta, GA (Fulton Co.)**
- (b) Geographical coordinates (to nearest second). If mounted on element of an AM array, specify coordinates of center of array. Otherwise, specify tower location. Specify South Latitude and East Longitude where applicable; otherwise, North Latitude West Longitude will be presumed. (The Commission requires coordinates based on NAD 27.)

Latitude	33 °	50 '	48 "	Longitude	84 °	22 '	16 "
----------	------	------	------	-----------	------	------	------

3. Is the supporting structure the same as that of another station(s) or proposed in another pending application(s)? ☒ Yes ☐ No

If Yes, give call letter(s) or file number(s) or both. KNKO829, KEF946, WPGI484

If proposal involves a change in height of an existing structure, specify existing height above ground level including antenna, all other appurtenances, and lighting, if any. \_\_\_\_\_

**Section V-B - FM BROADCAST ENGINEERING DATA (Page 2)**

4. Does the application propose to correct previous site coordinates?  
If Yes, list old coordinates.

☐ Yes ☒ No

Latitude                    °                    '                    "	Longitude                    °                    '                    "
---	--

5. Has the FAA been notified of the proposed construction?

☐ Yes ☒ No

If Yes, give date and office where notice was filed and attach as an Exhibit a copy of FAA determination, if available. **Existing Building/Tower, No Increase in HGT**

Exhibit No.

Date \_\_\_\_\_ Office where filed \_\_\_\_\_

6. List all landing areas within 8 km of antenna site. Specify distance and bearing from structure to nearest point of the nearest runway.

Landing Area	Distance (km)	Bearing (degrees True)
(a) <b>De Kalb - Peachtree</b>	<b>6.5</b>	<b>68.</b>
(b) _____	_____	_____

7. (a) Elevation (to the nearest meter)

(1) of site above mean sea level; \_\_\_\_\_ **301.8** meters

(2) of the top of supporting structure above ground (including antenna, all other appurtenances, and lighting, if any); and **Tallest item on building** \_\_\_\_\_ **162.2** meters

(3) of the top of supporting structure above mean sea level [(a)(1) + (a)(2)]. \_\_\_\_\_ **463.9** meters

- (b) Height of radiation center: (to the nearest meter) H = Horizontal; V = Vertical

(1) above ground; \_\_\_\_\_ **146.** meters (H)

\_\_\_\_\_ **146.** meters (V)

(2) above mean sea level [(a)(1) + (b)(1)]; and \_\_\_\_\_ **448.** meters (H)

\_\_\_\_\_ **448.** meters (V)

(3) above average terrain. \_\_\_\_\_ **163.** meters (H)

\_\_\_\_\_ **163.** meters (V)

8. Attach as an Exhibit sketch(es) of the supporting structure, labeling all elevations required in Question 7 above, except item 7(b)(3). If mounted on an AM directional array element, specify heights and orientations of all array towers, as well as location of FM radiator.

Exhibit No.  
**Fig 3**

9. Effective Radiated Power:

(a) ERP in the horizontal plane \_\_\_\_\_ **9.2** kw (H\*) \_\_\_\_\_ **9.2** kw (V\*)

Is beam tilt proposed?

☐ Yes ☒ No

If Yes, specify maximum ERP in the plane of the tilted beam, and attach as an Exhibit a vertical elevation plot of radiated field.

Exhibit No.

\_\_\_\_\_ kw (H\*) \_\_\_\_\_ kw (V\*)

\*Polarization

**Section V-B - FM BROADCAST ENGINEERING DATA (Page 3)**

10. Does this proposal modify a new unbuilt construction permit for an unbuilt, unlicensed facility?

☐ Yes ☒ No

If Yes, submit an Exhibit demonstrating compliance with 47 C.F.R. Section 73.3535 that includes a certification that construction will commence immediately upon grant of the construction permit application.

Exhibit No.

11. Is a directional antenna proposed?

☒ Yes ☐ No

If Yes, attach as an Exhibit a statement with all data specified in 47 C.F.R. Section 73.316, including plot(s), and tabulations of the relative field.

Exhibit No.  
**Fig 6, 6A**

12. Will the proposed facility satisfy the requirements of 47 C.F.R. Section 73.315(a) and (b)?

☒ Yes ☐ No

If No, attach as an Exhibit a request for waiver and justification therefor, including amounts and percentages of population and area that will not receive 3.16 mV/m service.

Exhibit No.

13. Will the main studio be within the protected 3.16 mV/m field strength contour of this proposal?

☒ Yes ☐ No

If No, attach as an Exhibit justification pursuant to 47 C.F.R. Section 73.1125.

Exhibit No.

14. Is this application being filed as a One-step proposal pursuant to the Report & Order in MM Docket 92-159, 8 FCC 2d 4735 (released July 13, 1993)?

☒ Yes ☐ No

If Yes, list the proposed allotment site coordinates to the nearest second below and attach an Exhibit demonstrating that the proposed allotment site is in compliance with the allotment standards. The Exhibit must contain: (1) an allotment site map that complies with the requirements of the April 5, 1985, Public Notice, Mimeo 3693, or a statement that the allotment site will be located on an existing tower; (2) a city coverage map, showing the allotment site is in compliance with 47 C.F.R. Section 73.315; (3) a showing demonstrating that the allotment site meets the minimum distance separation requirements of 47 C.F.R. Section 73.207; and (4) a statement that the proposed allotment site is suitable for tower construction.

Exhibit No.  
**Fig 8, 8A**

The coordinates for the proposed allotment site are:

Latitude	33°	59'	11"	Longitude	84°	21'	06"
----------	-----	-----	-----	-----------	-----	-----	-----

15. (a) Does the proposed facility satisfy the requirements of 47 C.F.R. Section 73.207? **Fig 4**

☐ Yes ☒ No

(b) If the answer to (a) is No, does 47 C.F.R. Section 73.213 apply?

☐ Yes ☒ No

(c) If the answer to (b) is Yes, attach as an Exhibit a justification, including a summary of previous waivers.

Exhibit No.

(d) If the answer to (a) is No and the answer to (b) is No, attach as an Exhibit a statement describing the short spacing(s) and how it or they arose.

Exhibit No.  
**EE-3**

(e) Is authorization pursuant to 47 C.F.R. Section 73.215 requested?

☒ Yes ☐ No

If the answer to (e) is Yes, attach as an Exhibit a complete engineering study demonstrating compliance with the minimum spacing requirements of 47 C.F.R. Section 73.215(e) and lack of prohibited overlap with the affected stations. The engineering study must include the following:

Exhibit No.  
**Fig 5, A, B**



**Section V-B - FM BROADCAST ENGINEERING DATA (Page 4)**

- (1) Protected and interfering contours, in all directions (360°), for the proposed operation.
- (2) Protected and interfering contours, over pertinent arcs, of all short-spaced assignments, applications and allotments, including a plot showing each transmitter location, with identifying call letters or file numbers, and indication of whether facility is operating or proposed. For vacant allotments, use the reference coordinates as the transmitter location.
- (3) When necessary to show more detail, an additional allocation study utilizing a map with a larger scale to clearly show prohibited overlap will not occur.
- (4) A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire Exhibit(s). Sufficient lines should be shown so that the location of the sites may be verified.
- (5) The official title(s) of the map(s) used in the Exhibit(s).

16. Are there: (a) within 60 meters of the proposed antenna, any proposed or authorized FM or TV transmitters, or any nonbroadcast (except citizens band and amateur) radio stations; or (b) within the blanketing contour, any established commercial or government receiving stations, cable head-end facilities, or populated areas; or (c) within ten (10) kilometers of the proposed antenna, any proposed or authorized FM or TV transmitters which may produce receiver-induced intermodulation interference?

☒ Yes

☐ No

If Yes, attach as an Exhibit a description of any expected, undesired effects of operations and remedial steps to be pursued if necessary, and a statement accepting full responsibility for the elimination of any objectionable interference (including that caused by receiver-induced or other types of modulation) to facilities in existence or authorized or to radio receivers in use prior to grant of this application. (See 47 C.F.R. Sections 73.315(b), 73.316(e) and 73.318.)

Exhibit No.  
**EE-3**

17. Attach as an Exhibit a 7.5 minute series U.S. Geological Survey topographic quadrangle map that shows clearly, legibly, and accurately, the location of the proposed transmitting antenna. This map must comply with the requirements set forth in Instruction V (D). The map must further clearly and legibly display the original printed contour lines and data as well as latitude and longitude markings, and must bear a scale of distance in kilometers. **Existing Communications Site**

Exhibit No.  
**N/A**

18. Attach as an Exhibit (name the source) a map which shows clearly, legibly, and accurately, and with the original printed latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.  
**Fig 2, A, B**

- (a) the proposed transmitter location, and the radials along which profile graphs have been prepared;
- (b) the 3.16 mV/m and 1 mV/m predicted contours; and
- (c) the legal boundaries of the principal community to be served.

19. Specify area in square kilometers (1 sq. mi. = 2.59 sq. km.) and population (latest census) within the predicted 1 mV/m contour.

Area 4,352 sq. km.

Population 2,195,992

**1990 Census**

20. For an application involving an auxiliary facility only, attach as an Exhibit a map (Sectional Aeronautical Chart or equivalent) that shows clearly, legibly, and accurately, and with latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.

- (a) the proposed auxiliary 1 mV/m contour; and
- (b) the 1 mV/m contour of the licensed main facility for which the applied-for facility will be auxiliary. Also specify the file number of the license.

# Section V-B - FM BROADCAST ENGINEERING DATA (Page 5)

21. Terrain and coverage data (to be calculated in accordance with 47 C.F.R. Section 73.313)

Source of terrain data: (check only one box below)

☒ Linearly interpolated 30-second database

☐ 7.5 minute topographic map

(Source: NGDC )

☐ Linearly interpolated 3-second database

☐ Other (summarize)

Radial bearing (degrees True)	Height of radiation center above average elevation of radial from 3 to 16 km (meters)	Predicted Distances	
		To the 3.16 mV/m contour (kilometers)	To the 1 mV/m contour (kilometers)
*			
0 City	152.8	22.4	38.0
45	148.3	22.0	37.3
90	153.5	22.4	38.0
135	159.7	22.9	38.6
180	163.1	19.3	32.8
225	181.4	19.0	32.3
270	179.0	24.0	40.7
315	162.7	23.0	39.1

\*Radial through principal community, if not one of the major radials. This radial should NOT be included in the calculation of HAAT.

22. Environmental Statement. (See 47 C.F.R. Section 1.1301 et seq.)

Would a Commission grant of this application come within 47 C.F.R. Section 1.1307, such that it may have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding identified health and safety guidelines issued by the American National Standards Institute?

☐ Yes

☒ No

If you answer Yes, submit as an Exhibit an Environmental Assessment required by 47 C.F.R. Section 1.1311.

Exhibit No.

If No, explain briefly why not. **See Exhibit EE-3, measurements will be taken.**

## CERTIFICATION

I certify that I have prepared this Section of this application on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

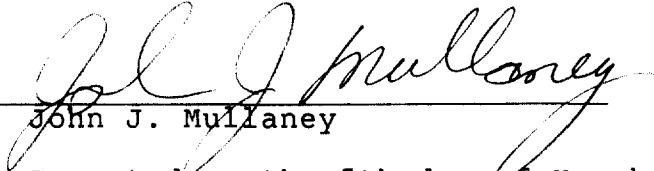
Name (Typed or Printed)	Relationship to Applicant (e.g., Consulting Engineer)
John J. Mullaney	Consulting Engineer
Signature	Address (include ZIP Code) Mullaney Engineering 9049 Shady Grove Court Gaithersburg, MD 20877
Date	Telephone No. (include Area Code)
March 5, 1998	301-921-0115

**MULLANEY ENGINEERING, INC.**

**DECLARATION**

I, John J. Mullaney, declare and state that I am a graduate electrical engineer with a B.E.E. and my qualifications are known to the Federal Communications Commission, and that I am an engineer in the firm of Mullaney Engineering, Inc., and that firm has been retained by Dogwood Communications, Inc., licensee of Radio Station WAMJ at Roswell, Georgia, to prepare an application for a "one-step" upgrade.

All facts contained herein are true of my own knowledge except where stated to be on information or belief, and as to those facts, I believe them to be true. I declare under penalty of perjury that the foregoing is true and correct.

  
John J. Mullaney

Executed on the 5th day of March 1998.

**MULLANEY ENGINEERING, INC.**

**ENGINEERING EXHIBIT EE-3:**

**RADIO STATION WAMJ  
DOGWOOD COMMUNICATIONS, INC.  
ROSWELL, GEORGIA  
Ch. 298C3 9.2 KW-DA 163 M HAAT**

**NARRATIVE STATEMENT:**

**I. GENERAL:**

This engineering statement has been prepared on behalf of Dogwood Communications, Inc., licensee of Radio Station WAMJ at Roswell, Georgia. The purpose of this statement is to request a Construction Permit authorizing a "one-step" upgrade from Channel 298A to 298C3. WAMJ proposes to change sites and operate with an ERP of 9.2 KW-DA and an HAAT of 163 Meters. This application proposes facilities which are in compliance with the contour protection requirements of Section 73.215. As will be shown herein, there is a special reference point which meets all of the minimum separations required for C3 operation.

This upgrade was made possible with the deletion of Ch. 298A at La Fayette, Georgia (MM Docket 97-196, effective date: 3/9/98). This upgrade application is mutually exclusive with a pending rule making by Radio Station WPEZ to re-allot FM Ch. 300C1 from Macon to Hampton, GA (MM Docket 98-18, comment date: 4/13/98).

This upgrade application is not a major environmental action, as defined by Section 1.1307 of the Commission's Rules. The

proposed facility is in full compliance with both the "controlled" & "un-controlled" FCC Radiation Guidelines.

Answers to questions contained in F.C.C. Form 301, Section V-B, are incorporated in the following paragraphs and figures.

## II. ENGINEERING DISCUSSION:

### A. Proposed Location:

WAMJ proposes to locate at an existing communication site atop a building at 3340 Peachtree Road, Atlanta, GA. Thus a topographic map showing the proposed site is not required. The geographic coordinates are:

Latitude: 33° 50' 48"  
Longitude: 84° 22' 16"

The city of license, Roswell, Georgia, is located approximately 19.5 kilometers north of the proposed site. The Regional Office of the FAA was not notified of this proposal since the existing height of the support structure will not change.

### B. Antenna System and Tower:

A dual polarized 4-bay half wave spaced FM antenna will be side mounted on a tower atop an existing building. Figure 3 is a sketch of the proposed tower. The antenna has a directional power gain of 1.4 H/V.

Figure 6 is a polar plot of the relative horizontal field pattern. Figure 6-A is a tabulation of the proposed pattern in relative field, DBK and KW. The antenna will be mounted in accordance with recommendations from the directional antenna manufacturer. In addition, no top mounted platforms or other antennas will exist in close

proximity of the FM antenna unless approved by the antenna manufacturer.

The antenna will be fed by 30.5 Meters (100 Feet) of 1-5/8" coaxial cable, with a rated efficiency of 94.8 percent for this length.

**C. Transmitter:**

WAMJ plans to install a type accepted 8 KW FM transmitter. The transmitter will be operated at 6.93 KW which is within its rated power.

**D. Effective Radiated Power:**

Giving consideration for the maximum antenna gain, transmitter power and line loss, the maximum Effective Radiated Power is 9.2 KW-DA for the Horizontal and 9.2 KW for the Vertical Component.

A Class-C3 FM station is restricted to a maximum of 25 KW (ERP) up to a maximum Height Above Average Terrain (HAAT) of 100 Meters. This proposal will operate with an HAAT that exceeds the maximum and consequently must reduce its ERP in order to obtain equivalent coverage within the 1.0 mV/M contour.

Current F.C.C. policy permits stations that are beyond 320 kilometers from the Mexican or Canadian Borders to use the F(50,50) curves to determine what reduced power at their HAAT will provide the equivalent maximum 1.0 mV/M coverage allowed.

Using the curve, it was determined that 9.2 KW at an HAAT of 163 Meters is equivalent to the maximum normally allowed.

**E. Channel Allocation:**

Figure 4 is a channel allocation study from the proposed C3 site. The proposed site is short spaced under the rules to two stations. The first short spacing of 10.1 km is to WCGQ on 297C at Columbus, GA. Protection to WCGQ will be provided in accordance with Section 73.215. The second short spacing of 10.4 km is to a pending rule making to re-allot FM Ch. 300C1 from Macon to Hampton, GA (MM Docket 98-18, comment date: 4/13/98). Inasmuch as Section 73.215 limits the maximum short spacing between a C3/C1 two channels apart to 1 km, this C3 upgrade application is "mutually exclusive" with the proposed rule making.

In all other respects this application is in compliance with Section 73.207(a).

**1. Contour Protection - Section 73.215:**

Figure 5 is a "white-paper" map and Figure 5-A is a tabulation of the protected 60 dBu and the first adjacent interfering 54 dBu contour proposed by this application.

Figure 5-B is a similar tabulations for WCGQ except that it is based upon maximum permissible ERP and HAAT at their existing site.

As can be seen, through the use of a directional antenna system, no prohibited overlap occurs. All contours are based upon terrain radials spaced every 5 degrees.

**F. "One-Step" Special Reference Point:**

Figure 8 is a C3 channel allocation study from a hypothetical special reference point some 3.5 km south of downtown Roswell, GA. The geographic coordinates are:

Latitude: 33° 59' 11"  
Longitude: 84° 21' 06"

Figure 8-A is a topographic map showing the hypothetical special reference point. As can be seen, the selected reference point is the same location of a communications tower so as to conclusively demonstrate that construction is feasible.

**G. Terrain Profile Data & Coverage:**

Terrain profile data was extracted from NGDC 30 Second Digitized Terrain Data Base provided out of Boulder, Colorado. At least twenty-four bearings (every 15 degrees) were used to obtain the proposed coverage data. The standard eight bearings (every 45 degrees) were used to obtain the proposed HAAT.

The predicted service contours, as shown in Figure 2 of the attached report, were computed using a mathematical model adapted for computer use of the data shown in Figure 1 of Section 73.333. This is the Commission's computer program TV FM FS REPORT RS-76-01, dated January 1976.

The coverage map (Figure 2) does contain the original latitude and longitude markings as required by the FCC form 301. However, it was impossible to show the original degree indications for these markings due to the scale of the map being used (1:500,000).



Figure 2-A is a tabulation of the distances to the 70 dBu (3.16 mV/M - City Grade) & 60 dBu (1.0 mV/M - Primary) contours in Metric Units (Meters/Kilometers).

**H. Terrain Profile to City of License:**

The N-0-E radial is the direct path to the City of License. From the proposed site the 3.16 mV/M City Grade Contour will completely encompass the City of License without major terrain obstruction. Figure 2-B is a 1:250,000 map showing the proposed 70 dBu coverage to the city of license, Roswell, GA.

**I. Coverage Area and Population:**

The area contained within the 60 dbu (1.0 mV/m) contour has been computed mathematically.

The population within this contour was obtained through a computerized analysis of the census designated places population data contained in the 1990 Census.

**J. FM Blanketing Contour:**

WAMJ recognizes its obligation to resolve related interference complaints for a one year period within its 115 dBu "FM Blanketing Contour" as required by Section 73.318 of the FCC Rules.

Given that a half wave spaced antenna will be used, no problems are anticipated.

**K. Other Services in Area:**

There are NO known AM Broadcast Stations within 3.2 kilometers of the proposed site.

This is a existing electronic site. Besides what already exists at the site there are no known transmission

facilities within 60 meters (197 feet) of the proposed antenna.

There are other FM and TV transmitters within 10 km (6.2 miles) of the proposed site, however, based on the type of transmitter proposed, and the frequency & power involved no intermodulation interference problems with existing transmitting facilities is expected. In the unlikely event some problems would occur, WAMJ will investigate and correct such cases in accordance with the Commission's Rules.

**L. Environmental Assessment Statement:**

WAMJ believes its proposal will not significantly affect the environment since it does not meet any of the criteria specified in Section 1.1307 of the rules. Since an existing building will be used with no change in overall height the only remaining environmental issue is R.F. Exposure. Specifically the proposed facility:

1. Will NOT involve the exposure of workers or the general public to levels of radiofrequency radiation in excess of the guidelines recommended by the FCC - OET Bulletin 65 (August 25, 1997).

The following is a more detailed discussion of this protection standard:

**a. National Environmental Policy Act of 1969:**

In 1969, Congress enacted the National Environmental Policy Act (NEPA), which requires the FCC to evaluate the potential environmental significance of the facilities it regulates and authorizes. Human exposure to Radio Frequency (RF) radiation has been identified as an issue

the FCC must consider.

Beginning with the filing of applications after January 1, 1986, broadcast stations were required to "certify compliance" with FCC prescribed guidelines on human exposure to RF radiation. The FCC standard was based upon the American National Standards Institute's (ANSI) RF radiation protection guides (ANSI C95.1-1982). These exposure limits are expressed in terms of milli-watts per square centimeter.

In October 1997, the FCC implemented a two tier evaluation criteria utilizing recommendations of the National Council on Radiation Protection and Measurement (NCRP). The "controlled" tier involves areas which have restricted access while the "un-controlled" tier involves areas which have unrestricted access. The Maximum Permissible Exposure (MPE) limits for "controlled" areas are the same as adopted in 1985 while the "un-controlled" limits for FM and TV frequencies are one-fifth or 20% of the limits for "controlled" areas.

These exposure limits are time-averaged over any six minute period and vary depending upon the frequency involved. The following are the Maximum Permissible Exposure (MPE) limits for "controlled" areas:

**RADIO STATION WAMJ - C3 UPGRADE**  
**Ch. 298C3 - ROSWELL, GA (3/98)**

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<b>Frequency Range (MHz)</b>	<b>Power Density (mW/sq.cm)</b>	
*****	*****	
0.3 to 3	100	AM
3 to 30	900/(Freq <sup>2</sup> )	
<b>30 to 300</b>	<b>1.0</b>	<b>VHF TV &amp; FM</b>
300 to 1,500	Freq/300	UHF TV
1500 to 100,000	5.0	

WAMJ recognizes that compliance with the above criteria at sites involving multiple AM, FM and/or TV facilities is based upon the contributions of all such facilities. At the site discussed in this application, the only significant facility that will exist is the proposed FM facility.

However, because of the numerous other communications facilities on the roof top, WAMJ herein commits to take RF Exposure measurements to document that the site is in compliance prior to commencing Program Test Authority (PTA) for its upgraded C3 facility. The remaining part of the RF Exposure analysis contained herein will be limited to the proposed C3 FM.

**FM BROADCAST STATIONS**

For FM Broadcast Stations the following formula is used:

$$D = \frac{\text{SQRT}( F^2 * [ \text{HERP} + \text{VERP} ] )}{1.667 * \text{SQRT}(\text{PD}) * 3.2808}$$

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Where:

- D = the closest distance in meters that a human should come to an operating antenna (to obtain feet multiply by 3.2808)
- F = typical relative field factor in downward direction ( F = 1 is worst case main lobe)
- HERP = Horizontal ERP in watts (above a dipole)
- VERP = Vertical ERP in watts (above a dipole)
- PD = highest Power Density in milli-watts/cm<sup>2</sup>
- SQRT = Square Root
- Freq = Frequency in mega-cycles/sec. (MHz)

The vertical radiation pattern of the FM antenna specified in this application is very narrow and, therefore, the power density as seen by an observer on the ground near the base of the tower will be less than 10 percent of the total ERP.

The application of the above equation (assuming maximum ERP), in our case, for a frequency of 107.5 MHz and a "un-controlled" Power Density of 0.2 milli-watts results in a minimum distance of 55.5 meters (182 feet) from the antenna. Inasmuch as the lowest element on the proposed antenna will be approximately 19.8 meters (65 feet) above roof level, additional analysis is required before one can conclude that no hazard will exist.

Figure 7 is a vertical elevation plot for an ERI 4 bay half-wave spaced FM antenna (LPX-4AC-HW).

Figure 7-A is a plot of the predicted RF Exposure at 7 feet above roof level. The "solid" line assumes a vertical form factor of F=1.0 while the "dashed" line uses the vertical form factor from Figure 7. As can

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be seen, the use of the 4 bay half-wave spaced FM antenna reduced the exposure at roof level (within a radius of 500 feet) below 49.7 uW/sq.cm or 4.97% percent of the standard for a "controlled" area. For FM, the "un-controlled" standard is 20% and, therefore, this proposal is in full compliance. Because of the complexities of a roof top site, WAMJ is committing herein to take RF Exposure measurements to document that the site is in compliance prior to commencing Program Test Authority (PTA) for its upgraded C3 facility.

The door to the roof will be locked to limit access.

Workers employed to climb the tower or work in a potential over-exposure location will not be permitted to enter the work area until cleared by the station manager or other responsible person. Appropriate warning signs will be posted to insure safety. In addition, WAMJ will establish and enforce work rules and safety procedures applicable in a potential over-exposure area. The rules will establish how close a worker can get to the antenna when it is operating at normal power and specify the power reduction required in order to make other locations safe. It is recognized that maintenance or installation work on or near the antenna may require the station to completely shutdown or switch temporarily to an auxiliary antenna or an auxiliary transmitter site. All employees, contract and other persons having access to areas of potential exposure will be

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required to sign a site management guide indicating they are aware of and will comply with all safety rules. In the instance of a multiple use site, a single site access policy incorporating the above philosophy will be established. All procedures will be reviewed & updated as necessary.

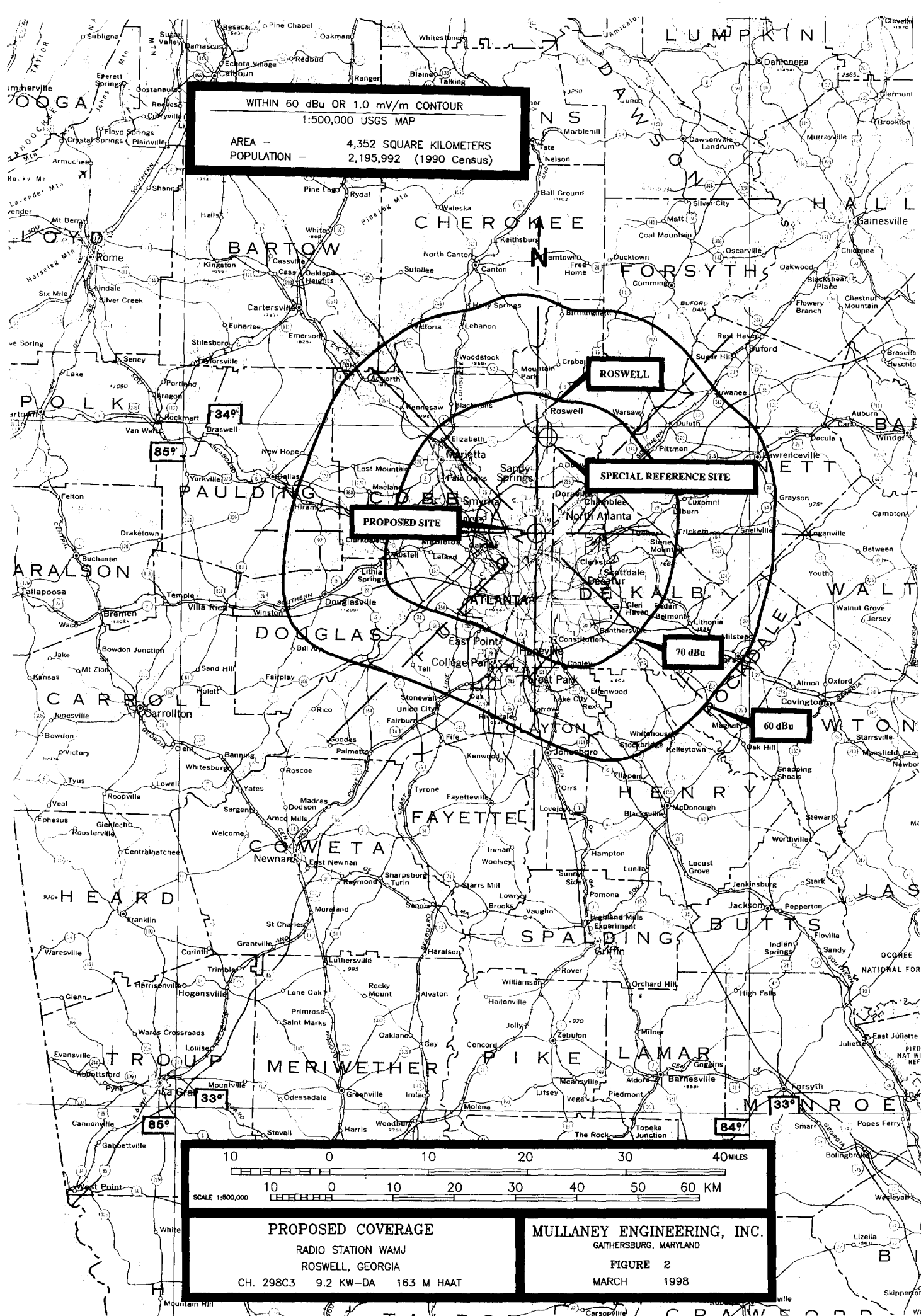
**III. SUMMARY:**

Dogwood Communications, Inc., licensee of Radio Station WAMJ at Roswell, Georgia, requests a Construction Permit authorizing a "one-step" upgrade from Channel 298A to 298C3. WAMJ proposes to change sites and operate with an ERP of 9.2 KW-DA and an HAAT of 163 Meters. This application proposes facilities which are in compliance with the contour protection requirements of Section 73.215. As will be shown herein, there is a special reference point which meets all of the minimum separations required for C3 operation.

This upgrade was made possible with the deletion of Ch. 298A at La Fayette, Georgia (MM Docket 97-196, effective date: 3/9/98). This upgrade application is mutually exclusive with a pending rule making by Radio Station WPEZ to re-allot FM Ch. 300C1 from Macon to Hampton, GA (MM Docket 98-18, comment date: 4/13/98).

This engineering proposal is in full compliance with the Commission's Rules.

*Bl J Mullane*





# FM COVERAGE

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WAMJ C3 UPGRADE - FROM TOWER PLACE

3/98

CHANNEL NO. 298 C3      FREQUENCY 107.5 MHZ  
CENTER OF RADIATION 448.1 METERS AMSL  
COORDINATES: 33-50-48 / 84-22-16

MAXIMUM ERP 9.2 KW-DA

CITY	BEARING DEGREES *****		3-16 KM AVERAGE *****	C.R. HAAT *****	E.R.P. (KW) *****	DISTANCE TO CONTOURS (KM)		
						115.0	70.0	60.0
						*****	*****	*****
	0.	*	295.3	152.8	9.200	1.2	22.4	38.0
	15.		303.8	144.3	9.200	1.2	21.7	36.9
	30.		292.5	155.6	9.200	1.2	22.5	38.3
	45.	*	299.8	148.3	9.200	1.2	22.0	37.3
	60.		294.0	154.1	9.200	1.2	22.4	38.0
	75.		282.8	165.3	9.200	1.2	23.2	39.3
	90.	*	294.6	153.5	9.200	1.2	22.4	38.0
	105.		294.8	153.3	9.200	1.2	22.4	38.0
	120.		285.5	162.6	9.200	1.2	23.0	38.9
	135.	*	288.4	159.7	9.200	1.2	22.9	38.6
	150.		285.8	162.3	9.200	1.2	23.0	38.9
	165.		286.2	161.9	8.200	1.1	22.4	38.0
	180.	*	285.0	163.1	4.303	0.8	19.3	32.8
	195.		287.4	160.7	3.046	0.7	17.5	29.9
	210.		280.6	167.5	2.715	0.6	17.4	29.8
	225.	*	266.7	181.4	3.264	0.7	19.0	32.3
	240.		251.3	196.8	6.220	1.0	22.9	38.9
	255.		250.6	197.5	9.200	1.2	25.1	42.2
	270.	*	269.1	179.0	9.200	1.2	24.0	40.7
	285.		287.9	160.2	9.200	1.2	22.9	38.8
	300.		285.3	162.8	9.200	1.2	23.0	39.1
	315.	*	285.4	162.7	9.200	1.2	23.0	39.1
	330.		287.0	161.1	9.200	1.2	22.9	38.8
	345.		301.4	146.7	9.200	1.2	21.9	37.2

AVERAGE ( 8) \* 285.5 162.6 Meters

AREA IN SQUARE KILOMETERS 3.83 1511. 4352.

115.0 DBU BLANKET CONTOUR IS COMPUTED VIA SECTION 73.318

## TABULATION OF PROPOSED CONTOURS

RADIO STATION WAMJ  
ROSWELL, GEORGIA  
Ch. 298C3 9.2 KW-DA 163 M HAAT

## MULLANEY ENGINEERING, INC.

GAITHERSBURG, MARYLAND

FIGURE 2-A

MARCH 1998